

HIV AND AIDS FACTS

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WHAT IS HIV?

The letters HIV stand for Human Immuno-deficiency Virus, but what actually is the HIV virus? There are thousands of different types of viruses that humans can get, from the common cold to polio, and HIV is a serious virus that can lead to AIDS.

The particle of an HIV virus looks like a very small ball, which is made up of layers of protein inside. These layers protect the virus' reproductive cells, which enables it to produce many more particles.

The outer coat of the HIV particle is made from glycoproteins which help to give the virus an identity. Once the HIV virus gets into a living cell it can then reproduce and attack the human immune system.

WHAT DOES HIV DO IN OUR BODIES?

The HIV particles attack cells in our body so that they can reproduce. The most important cell that the virus attacks is in our blood, both the red and white blood cells are found here and HIV targets the white blood cells in particular.

These cells are our defence mechanism against illness, yet HIV targets the white helper T-cell which is integral to our immune system.

The glycoproteins determine which cells HIV will attack, and attach the virus to the helper T-cell because these cells have protein on their surface called CD4. When the glycoprotein and the CD4 come together, it's like finding a right key to a door, the virus has now attacked the helper T-cell.

Once inside the cell the HIV virus can reproduce more virus particles which attack the helper T-cells. Once the helper T-cells come under attack by the HIV viruses, the human body is infected with the HIV disease. The immune system is unable to prevent illness and other infections occurring.

HOW DOES HIV GET INTO OUR BODIES?

Unlike viruses such as coughs and colds, HIV cannot be spread through a sneeze or a cough, which makes it hard for someone to become infected by HIV. The virus can infect us if it enters our blood as this is where the helper T-cells are found.

HIV is also found in bodily fluids such as semen, vaginal fluid, breast milk and very small amounts are found in sweat, saliva and tears. The virus can get into our bodies through broken skin but we can also catch it from one person passing it to another.

The easiest way for the virus to enter our blood is by having sex with someone who has the virus, it is the most direct way for the virus to enter as it can only survive a few minutes outside the body. We can protect ourselves from the HIV virus when having sex by using a condom, as it acts as a barrier to stop the virus in the semen getting out, or the virus from another person getting in.

An HIV pregnant mother can also risk passing the HIV virus to her baby through the umbilical cord and through breast milk. To prevent this the mother could have a caesarean section to deliver her baby and feed her child with bottled milk.

Sharing needles is another way that the virus can be passed as there is a chance that infected blood can be passed from one person to another. This is more of a problem for drug users as they share needles with other users. Needles that are used for tattooing or piercing could also pass on the HIV virus if it has already been used by someone with the virus. To prevent this, needles should be thoroughly cleaned or even better, not used before.

Another way that HIV can be contracted is through blood that is infected by HIV. In the past, many people who had to be given blood were given blood that had not been tested for HIV, which meant that blood containing HIV was passed from one person to another. Today blood is thoroughly tested before it can be used for transfusions.

MEDIA MYTHS

HIV cannot be contracted through hugging or touching someone with the virus. Kissing is more of a risk if more saliva is swapped, or the un-infected person has a cut in their mouth. There are very small amounts of HIV in saliva, and would need to exchange a bucket full of saliva to be at risk.

Only very small amounts of HIV are found in urine, therefore there is no evidence that any one has caught HIV from urine.

Very small amounts of HIV are found in sweat and tears, so the risks of becoming infected by someone who is sweating or crying are so low that we don't need to worry, and there is no evidence that people have become infected in this way.

Sharing food with someone who has the HIV virus is not a problem as the virus cannot survive out of the human body, there has been no evidence that people have become infected in this way.

HOW DO I KNOW IF I HAVE HIV?

Unfortunately it is not easy to know if you have HIV. There are no signs or symptoms when you are first infected. The only way to know for sure is to have a blood test. HIV attacks the immune system, and so the symptoms do not develop very quickly.

In the first several weeks of infection with HIV, some people feel like they have flu. But for most people the first symptoms might only appear much later and could include fatigue, diarrhoea, fever, weight loss, coughs, rashes, herpes and mouth infections.

Someone who is infected with HIV might slowly start to notice that it takes longer to get rid of a cold, or that it takes longer to heal a cut.

Yet the main problem is not that it is taking longer to get rid of a cold or heal a cut, but these are only signs that the HIV is affecting the immune system. As the virus reproduces more and attacks the helper T-cells, the immune system becomes so weak that the body picks up more infections and takes longer to recover from them.

HOW IS HIV LINKED TO AIDS?

AIDS stands for Acquired Immuno Deficiency Syndrome. AIDS will develop only after HIV has destroyed so much of the immune system, and the body is not able to fight off diseases.

One way for people with HIV to check if they have AIDS is to count their helper T-cells, if the count falls below a specific number it is likely that the person has AIDS.

AIDS can develop two to fifteen years from the time of infection of HIV, which is roughly how long it takes for the HIV virus to break down the immune system. The rate at which the helper T-cell count falls can be slowed down by drugs.

Drugs aren't a cure or prevention, they just slow down the spread of HIV. The drugs enable the HIV virus to kill the helper T-cells much more gradually, which means that the development of AIDS is slower.

To help bodies fight infection it is important to stay healthy by eating well and looking after yourselves.

IF I GET AIDS DOES IT MEAN I WILL DIE?

If a person has AIDS, then their immune system is very weak because so many of the helper T-cells have been destroyed.

This means they are more likely to get infections; and because they can't fight them off it can result in death. AIDS itself does not kill people; people with AIDS often die from tuberculosis, diarrhoea, encephalitis (an infection of the brain) and cancer.

AIDS wipes out the body's immune system, which means that people with AIDS find it very difficult to fight off other diseases. If someone is infected with HIV they are thirty times more likely to get tuberculosis.

Tuberculosis is one of the leading causes of death in Africa, when someone has AIDS they are unable to fight off the disease, as their immune system is so weak. People don't die from AIDS but they do die from an AIDS related illness, as the immune system is so weak that they cannot fight it.

IS THERE A CURE FOR HIV AND AIDS?

At the moment there is no cure for HIV. Even the best drugs might be able to control the spread of HIV in the body, but they cannot totally get rid of the infection.

Unfortunately the drugs are very expensive so they are only available to people or countries that can afford them. There is an ongoing debate and fight for justice to make the drugs available to all people regardless of the cost.

Although HIV and AIDS has been around for a long time and there has been lots of research trying to find a vaccine, yet there is still no vaccine for HIV.

This is because HIV is a complicated virus as there is more than one type of HIV, this is similar to the common cold. There is no vaccine against a cold because there are so many different types of the virus.

Also the structure of the HIV virus can change when it reproduces, and vaccine must be designed to cope with this. If the vaccine is to be effective it needs to be able to kill any future HIV structures too, rather than just kill one structure. A vaccine would only protect us from the disease, it would not be a cure for people who are already infected.

HOW BIG IS THE AIDS PROBLEM?

The HIV and AIDS problem is huge. Throughout the world there were 5 million AIDS deaths in 2002, and of these almost 3.5 million were in Africa.

There are around 42 million people living with HIV and AIDS in the world, with over 29 million of these in Africa which means there is an epidemic of the virus found in this continent.

The problem of HIV and AIDS is not just found within Africa, the disease is spreading quickly in other parts of the world too. This is a pandemic as the virus has spread across so many countries.

People in every country across the world are infected with HIV, and it is still spreading. There is an epidemic of HIV and AIDS across the world, and this is called a pandemic. Yet in Africa the problem is even greater.

There are so many people living with HIV and AIDS that it has become a huge epidemic in just one continent. Nearly half the people in Africa who are HIV positive become infected with the virus before they are 25, and many die before they are 35.

The impact of this is devastating, as these people are in their prime in terms of work and many have partners and children to support.